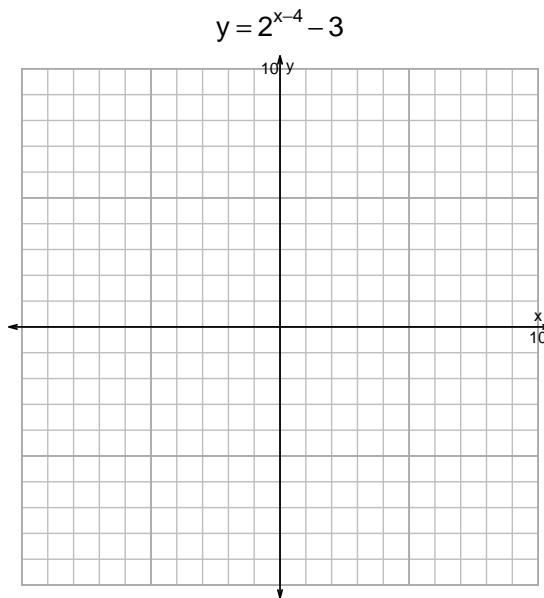
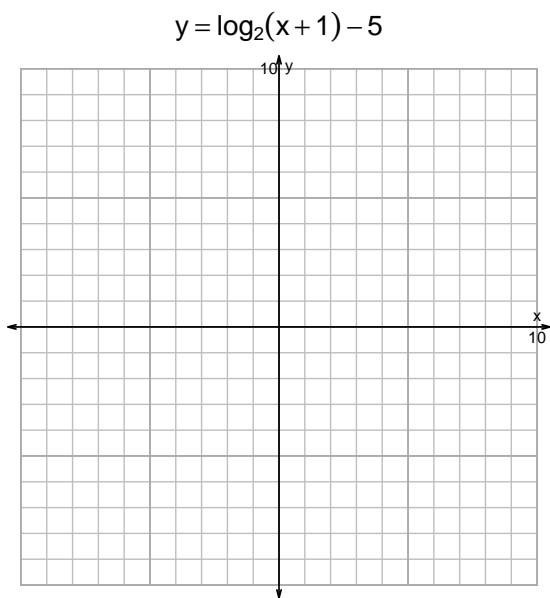


Name: \_\_\_\_\_

Date: \_\_\_\_\_

s18: EXP LOG (QUIZ v362)

1. (10 pts) Graph  $y = \log_2(x + 1) - 5$  and  $y = 2^{x-4} - 3$  on the grids below. Also, draw any asymptotes with dashed lines.

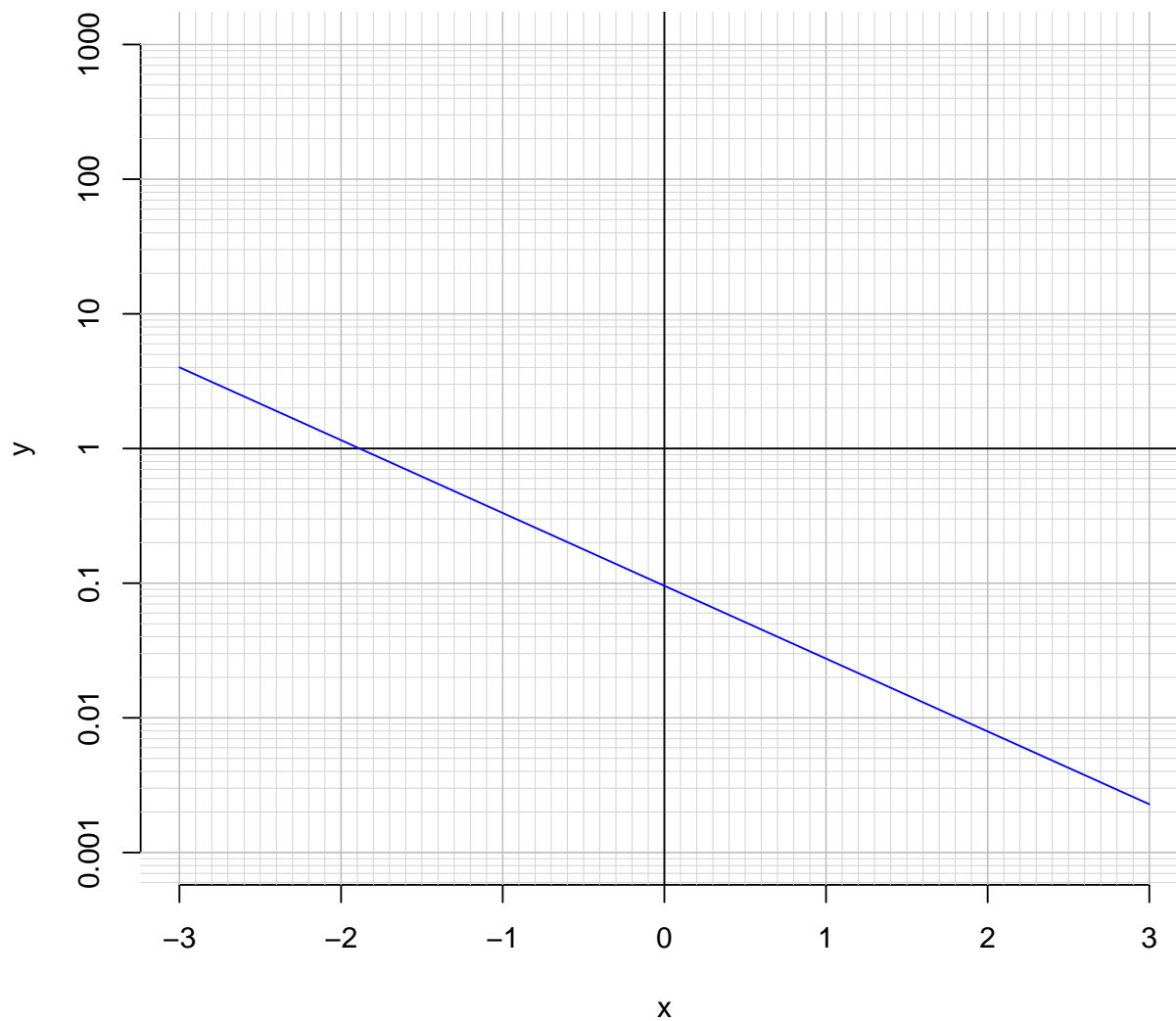


*Somewhat useful hint:  $2^3 = 8$ , and thus  $\log_2(8) = 3$ .*

2. (10 pts) Write (but do not evaluate) the solution to the equation below by writing a logarithmic expression. Please do not do any arithmetic; just move numbers around.

$$-13 = \left(\frac{-4}{3}\right) \cdot 2^{5t/7}$$

3. (10 pts) An exponential function  $f(x) = 0.0956 \cdot e^{-1.24x}$  is graphed below on a semi-log plot.



- a. Using the plot above, evaluate  $f(2.1)$ .

- b. The inverse function is logarithmic.

$$f^{-1}(x) = \frac{-1}{1.24} \cdot \ln\left(\frac{x}{0.0956}\right)$$

Using the plot above, evaluate  $f^{-1}(0.04)$ .